

## MARKETING PATTERNS OF AGRICULTURAL COMMODITIES IN AN UPLAND AREA OF CENTRAL JAVA

by

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### ABSTRACT

*In the uplands of Central Java a wide variety of dry cultivated crops are produced for subsistence as well as for cash. The marketing channels for these crops are also diverse. The producers can choose between selling at the market place or at their farms; either to consumers or traders; or they can sell their products to wholesalers in the towns. However, this freedom of choice is not absolute and is determined by the quantity of the merchandise. Farmers who can sell large amounts of produce are able to by-pass some steps in the hierarchical order of market places or traders. Thus, producers with relatively large farmlands can sell their commodities in more profitable ways compared to those with smaller farms. Moreover, the latter are often forced to sell their produce below market value to traders who provided them with advance or who bought the crop before harvest (tebasan), because of their need for cash.*

### INTRODUCTION

The dominant means of subsistence in the upland areas of Java is the permanent cultivation of food and cash crops on small unirrigated fields. Upland agriculture, as well as the related socio-economic structures and developments, only received attention of administrators and scientists in recent years:

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"Because of environmental degradation in the upland areas and the harmful effects on lowland agriculture, growing attention is now being paid to upland farming. However, insufficient knowledge of the agronomic and socio-economic characteristics of this type of agriculture and of its regional diversity hampers as yet the formulation of a sound and realistic policy". (Palte, 1984: 1).

Cultivation in the uplands of Java is characterized by a multitude of different crops, of annuals as well as biennials and perennials, providing the peasant households with various kinds of products for self provision and for trading (Palte, 1984). Little is known about the marketing of these commodities, as most research has focussed on the trading of products of the lowlands with their irrigated paddy fields (e.g.: Dewey, 1962; Chandler, 1984; Alexander, 1986). The marketing situation in the uplands is expected to deviate because of two reasons. In the first place, the products of the uplands are partly different from those of the lowlands and of a greater variety, so that they supply different and various markets as well. Secondly, the upland areas are relatively more isolated and less accessible, resulting in limitations in transport that may in particular influence trading of products in large quantities.

To acquire more insight into the specific marketing practices and problems of upland agricultural commodities, a research project was carried out in 1986 in Central Java. This research was also meant to obtain a better understanding of how socio-economic factors may influence marketing patterns in these uplands, which are generally considered to be among the poorest areas of Java.

## METHODOLOGY

The aim of the study is to identify the crops produced and sold by the farmers, and to find out how they sell these various products, and to whom. Besides, an attempt is made to discover whether the farmers are aware of the different marketing possibilities and whether they are in a position to choose among them. A third aim is to distinguish different traders that are active in the area and to determine whether they influence management decisions of the farmers.

Summarizing, the central problem of the study can be formulated as follows:

"What kind of marketing patterns for agricultural commodities are found in the uplands of Central Java: which 'actors' can be distinguished in the processes of marketing; and what are the socio-economic factors connected with these marketing activities?"

The research was carried out by means of a case study of two adjacent villages in the subdistrict of Leksono, near the town of Wonosobo in the upper

Serayu River Basin (Figure 1). The rationale for choosing these villages, Jonggolsari and Kalimendong, is the fact that they had already been the subject of basic agricultural research. The agricultural system in the two villages, in particular the agroforestry system, was studied by Hunink and Stoffers (Hunink *et al.*, 1984), providing the necessary background information on cultivation methods, crops grown and yields. Besides, the region as a whole has been surveyed in 1979/80 by Palte *et al.* (1981), so that a large-scale picture of socio-economic structures and developments was available.

In the two villages five out of thirteen hamlets (*dukuh*) were chosen, on base of type of landuse and their distance from the macadam road that connects the area with the 'outer world'. In these hamlets 75 randomly selected households were interviewed by using a questionnaire. After this household survey, five households, which made use of different marketing channels, were re-visited for an in-depth survey. In the market places observations were made and open interviews held with sellers and traders. The latter were also visited at home or in their stalls (*warung*). In addition, government offices and key-informants were contacted in order to collect statistics and other relevant information.

## MARKETING OF AGRICULTURAL COMMODITIES ON JAVA

An important part of the agricultural trade on Java takes place in the rural market place (*pasar*). Rural markets on Java are periodic markets which are being held regularly on one or more fixed days a week. In the case of daily markets, periodicity occurs in the form of major market day. On this major day more traders and consumers are present and a greater amount and variety of goods are offered. According to Chandler (1984: 2), the periodic markets, including the major market days of daily markets, may serve a bulking function for agricultural produce grown in the area.

Most traders are itinerant, visiting different markets on one day in order to achieve viability. Periodicity of the markets enables traders to increase profits and consumers are attracted by the great number of traders active on the relevant market day.

In contrast to the *pasar* trade, which is usually small-scale in character, large-scale trade is often — but not necessarily — practised by Chinese wholesale dealers. Wholesale trade takes place in the cities in what are called *depot* or *gudang* (literally storage place). A *gudang* serves a bulking function for agricultural produce and is supplied by middlemen who collected their merchandise in the market places or straight from the farm. Farmers can also sell their products directly to the *gudang*, without any intermediaries in case of large volumes.

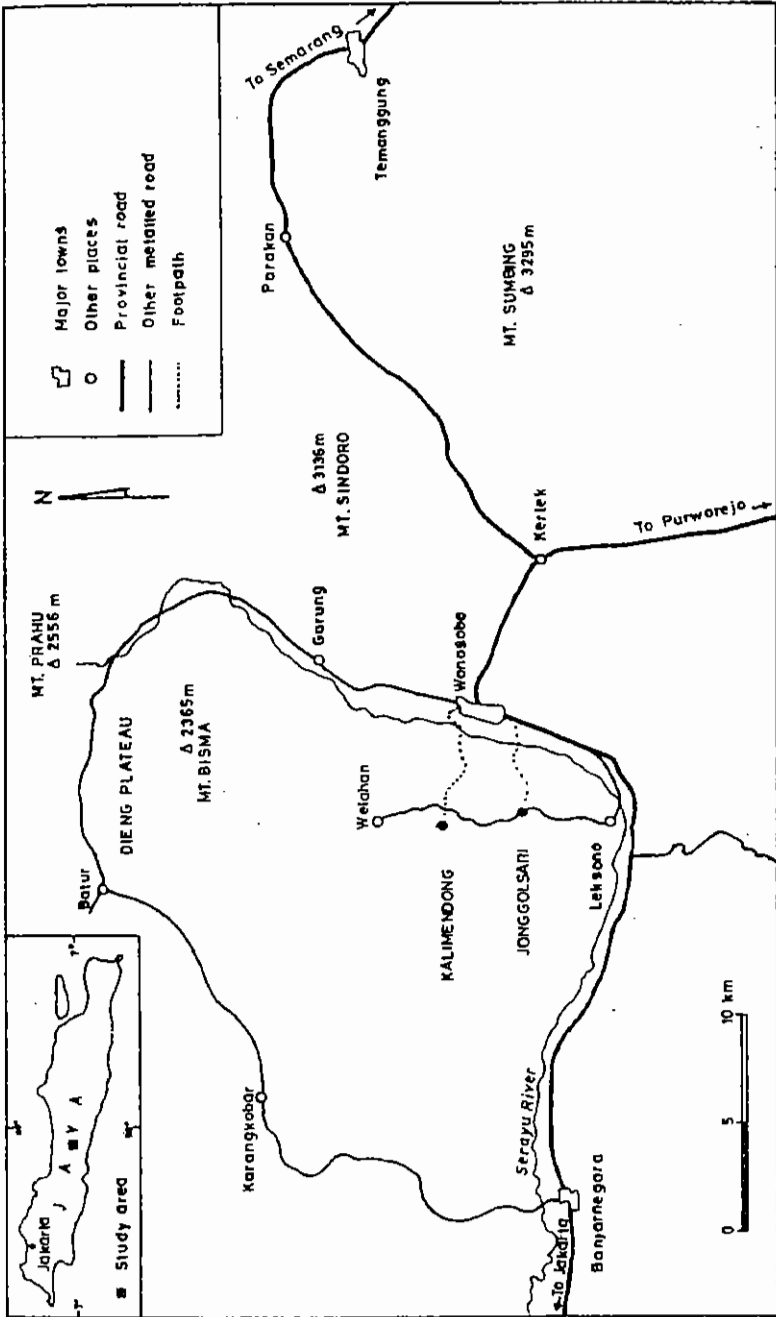


Figure 1. Location of the Research Area

Farmers who sell their products directly from the farm to traders can decide to do this before or after the harvest. The first form is called *tebasan* and is frequently practised on Java. The trader (*penebas*) buys the crop when it is not yet ripe or fully grown and he arranges its harvest, with hired agricultural labourers, and its transportation. This kind of trade is large-scale in nature since the quantity of the crop is quite substantial. The *tebasan* system became well-known among Western scholars because of its recent application with respect to rice harvesting in Java's lowlands. Here it is usually considered an unfavourable development (e.g. Collier, 1978). It should be noted, however, that *tebasan* existed already as a well-established institution in the uplands, especially for the selling of tree products, without a negative connotation.

According to the theory of hierarchical marketing systems, commodities move up or down stepwise: factory produced or imported goods are gradually broken into smaller quantities as they move from the largest market in a region to the smallest market. Agricultural products move upward along the same hierarchy and are bulked in ever increasing quantities at higher-order markets (Mai, 1984: 49). According to Geertz (1963) such a step-by-step process allows for a great number of middlemen to exist between producer and consumer or processor, but with only low profit margins for the traders involved.

Dewey (1962) emphasizes the two levels of agricultural marketing: small-scale and large-scale. Small-scale trade consists of mostly perishable products absorbed by the local market and is characterized by unstable prices, uncertain demand, low profit margins and inadequate supply of capital; it is dominated by Javanese rural traders. Large-scale trade is characterized by the sale of cash crops in larger amounts than the local market can absorb, for prices that can compete with those in the cities. Large amounts of capital are involved in this trade, which is dominated by Chinese urban traders. Both Geertz and Dewey are of the opinion that the Javanese small-scale trading tradition is maladaptive to larger scale trade, as practised by Chinese traders.

Alexander (1986), who carried out a recent study about the marketing of chillies in Central Java, comes up with a somewhat different picture. She noticed that during the dry season, when greater quantities of chillies are harvested, the lower steps in the hierarchical market model are by-passed. In this period of the year it is profitable for the (Javanese) producers and traders to sell their more bulky merchandise directly to a *gudang* in the town, instead of at the local markets where prices are usually lower. On base of her findings, Alexander (1986: 88) concludes that:

"(...) the volume and value of goods handled at this (i.e. *gudang*; O & P) level are considerable and both price setting and commercial relationships are largely stable. Constraints on entrepreneurial activities are attributed not to a Javanese peasant ethos of 'shared poverty'

but to lack of capital, dispersed markets, perishable goods and discontinuous information on supply of produce and current market prices."

The discontinuity of information is the main reason why Javanese small-scale trade is not organised and integrated in a more profitable way.

### MARKETING IN THE STUDY AREA

In the upland villages of Jonggolsari and Kalimendong the cultivation of dry-field crops is by far dominant. Yet, some irrigated field (rain-fed or with simple village irrigation) are present in valley bottoms, where the owners grow paddy for self-provision. The dry cultivated fields can be discerned into *tegal*: largely open fields with few scattered trees and cropped with annuals for food and cash; and *kebun campuran* or mixed gardens with a dense interculture of annuals and perennials (Hunink *et al.*, 1984; Palte, 1984).

One of the most characteristic phenomena of upland cultivation is the great variety of crops, that are grown for different purposes. The farmers mention avoidance of risk as the main rationale. Indeed, the permanent agriculture on unirrigated fields is a hazardous undertaking under tropical climates. The cultivation of staple food crops is of great importance in the research area. Almost all rice, maize, and sweet potatoes and part of the cassava are produced for own household consumption. Besides these crops meant for self-subsistence, there are a large number of products which are only partly sold in case of surpluses. Apart from cassava, these include fuelwood, bamboo and most fruits: chilli, coconut, banana, jackfruit, guava, *petai*, *jengkol* (both nut-like beans) and pineapple. Finally, a third category of crops is solely or mainly grown for commercial purpose. The most important are: coffee, cloves, *aren* (sugar-palm), *kapulaga* (cardamom, for medicinal use), and timber.

It appears that variety of crops and degree of commercialisation is related to the size of the farm, i.e. the area cultivated (Table 1). The small producers (< 0.5 ha) cultivate at average "only" 10.7 different kinds of crops, while 65.6% of their produce is consumed by the household. On the medium sized farms (> 0.5 but < 1.5 ha) it is found the greatest variety of crops: 15.7. Farmers with the largest land area (> 1.5 ha) cultivate 14.9 different crops on the average. The degree of commercialisation is the highest among these farmers: only 41.6% of the production is used for own household consumption, so that the majority of the crops is cultivated for commercial purpose.

The variety in marketed commodities is reflected in the diversity of marketing channels. The farmers make use of more than one way to sell their

TABLE 1. MARKETING PATTERNS RELATED TO FARM SIZE.

	Respondents with ≤ 0.5 ha		Respondents with > 0.5 & ≤ 1.5 ha		Respondents with > 1.5 ha		Total respondents	
	abs.*	%	abs.	%	abs.	%	abs.	%
Number of respondents	35	46.6	30	40.0	10	13.3	75	100
Respondents selling on market to:								
- consumers	4	11.4	9	30.0	2	20.0	15	20.0
- traders	20	57.1	19	63.3	5	50.0	44	58.6
Respondents selling at their farm to:								
- consumers	4	11.4	4	13.3	2	20.0	10	13.3
- traders	11	31.4	10	33.3	3	30.0	24	32.0
- penebas	21	60.0	30	100	10	100	61	81.3
Respondents selling to wurung	5	14.3	11	36.6	2	20.0	18	24.0
Respondents selling to wholesalers, etc.	—	—	6	20.0	1	10.0	7	9.3

\* abs. stands for absolute

Source: own research.

produce, though they may be dependent on a certain trader for the sale of a specific crop. In the section below, we will give a short overview of the marketing practices that were found in the studied villages (see also Figure 2). In general, the farmers can choose between selling before or after the harvest, to traders or consumers at their farms or on the market places. Additional possibilities are offered by selling straight to wholesalers in the towns, to processing factories, or to village stalls or shops. The choice a farmer makes is often dependent on the quantity of the produce, which is a function of the size of the cultivated area.

### Sale of Produce in the Market Place

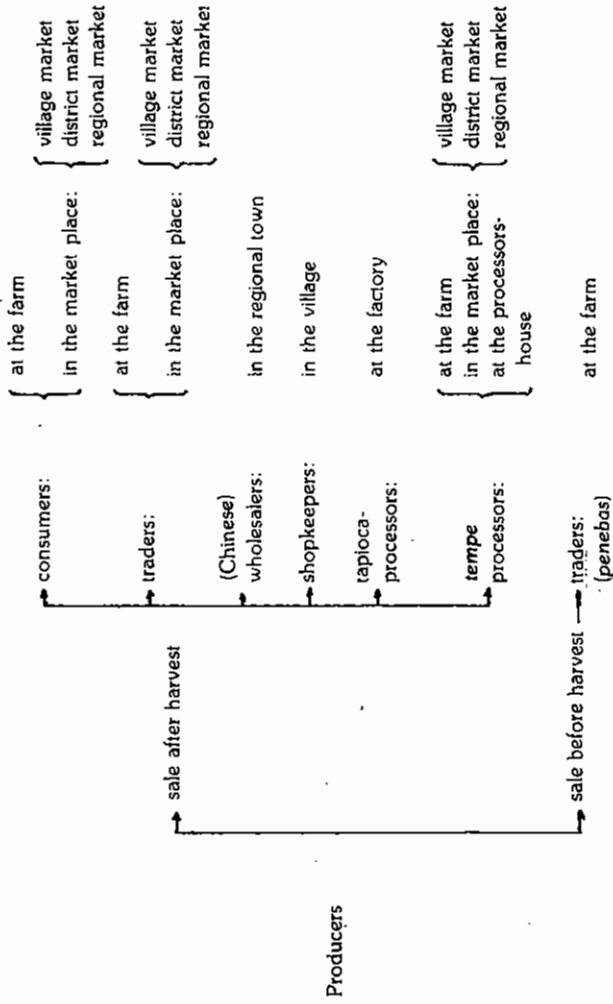
Some farmers bring their agricultural produce to the market place to sell it either to consumers or to traders. As can be seen in Tables 1 and 2, the sale directly to consumers is of minor importance. This can be explained by the fact that this kind of sale takes place mostly of small surpluses, mainly fruits. In case of larger surpluses or of commercial produce, the sale to traders in the market place becomes much more important: it is done by 44 respondents (58.6%). This notably occurs for the cash crops *kapulaga*, coffee, cloves and chillies. The traders buy the produce by the *kilon* system: they weigh the offered produce on the spot, bargain a price per kilogram and pay the farmer cash.

The market places in the area are of a hierarchical order: at the base is the small village market; the market in the district chieftown is of medium size; and the market in the regional town is of the highest order. The prices for agricultural produce offered at these markets are also higher according to their ranking (apart, of course, from the quality of the produce).

**The Village Market.** In the small periodical village-market an average of only five traders are active and the prices are relatively low. The purchased quantity in one market day is relatively small: an average of less than 1 *kuintal* (= 100 kilograms) of a product per trader is bought on one market day. Usually there is no more produce available, since other farmers prefer to sell straight at a higher-order market place. In particular the small farmers sell in the hierarchically lowest market place, because they have only small quantities at their disposal. It is not profitable for them to sell at a market farther away, because the additional transport cost would consume their small profits. The main function of the village market is for bulking, even though quantities handled are low. The retail function is of minor importance.

A few farmer-households in the study-villages process soybeans to *tempe* or soycake for additional income. They use beans from their own land, but may buy extra material from their fellow-villagers in the market place or at home.





Source: own research.

Figure 2. Marketing Channels of Agricultural Produce in the Research Area.

TABLE 2. MAIN COMMODITIES AND THEIR MARKETING BY RESPONDENTS

Commodity	Number of cultivators (N = 75)		For own use only		Sale on market to:				Sale at the farm to:				Penebas		Other marketing channels	
	abs.	%	Consumers		Traders		abs.	%	Consumer		Traders		abs.	%	abs.	%
			abs.	%	abs.	%			abs.	%	abs.	%				
Cassava	72	96.0	45	62.5	—	—	2	2.8	—	—	1	1.4	21	29.1	3	4.2
Chilli	44	58.6	27	61.3	1	2.3	6	13.6	—	—	6	13.6	—	—	4	9.1
Pineapple	26	34.6	10	38.4	3	11.5	8	30.7	1	3.8	4	15.4	—	—	—	—
Banana	70	93.3	27	38.6	4	5.7	7	10.0	1	1.4	10	14.2	21	30.0	—	—
Cardamom	29	38.6	—	—	—	—	15	51.7	—	—	1	3.4	—	—	13	44.8
Coconut	70	93.3	31	44.3	7	10.0	11	15.7	2	2.8	11	15.7	—	—	8	11.4
Aren	18	24.0	5	27.8	2	11.1	6	33.3	1	5.5	4	22.2	—	—	—	—
Jackfruit	35	46.6	33	94.0	—	—	1	2.8	1	2.8	—	—	—	—	—	—
Petai	40	53.3	25	62.5	1	2.5	—	—	—	—	5	12.5	9	22.5	—	—
Jengkol	42	56.0	23	54.7	2	4.7	2	4.7	1	2.4	—	—	13	30.9	1	2.4
Guava	30	40.0	27	90.0	—	—	2	6.6	1	3.3	—	—	—	—	—	—
Coffee	62	82.6	2	3.2	—	—	27	43.5	—	—	7	11.3	5	8.1	19	30.6
Cloves	37	49.3	—	—	—	—	16	43.2	—	—	5	13.5	5	13.5	11	29.7
Albizia	65	86.6	17	26.1	1	1.5	—	—	5	7.7	2	3.1	41	63.1	—	—
Sengon	21	28.0	17	80.9	—	—	—	—	—	—	—	—	4	19.1	—	—
Suren	43	57.3	20	46.5	1	2.3	—	—	3	7.0	—	—	9	44.2	—	—

Source: own research.

The *tempè* processors sell their product again in the village market to consumers or to shops in the village.

**The District Market.** The medium-ranked periodical market in Leksono is basically of the same structure as the village market. Both markets are kept twice in the five-day cycle on which marketing activities in Java are based. The markets are named after the five days of the Javanese week: *Wage*, *Kliwon*, *Legi*, *Pahing*, and *Pon*. The bulking of agricultural produce is also the main activity in this market, but the number of traders and sellers is larger, and the prices the farmers receive are higher. As a consequence of the larger number of buyers and sellers, trade is more anonymous in character compared to the village market. Many of the traders active in the village market place accumulate their merchandise later in the morning at this market in Leksono. Although the bulking function of the district market is of major importance, the retail function is substantial as well.

**The Regional Market.** The market in the regional (i.e. *kabupaten*) capital of Wonosobo is differently organised in time and in function. The market is a daily market but a major market day is held once in the Javanese week. On this day the market is very crowded, with large numbers of mobile traders and vendors coming from all over the region. The retail function of the regional market is of greater importance than its bulking function.

The farmers visiting the market in Wonosobo usually go there with the purpose to buy consumer items or to sell particular home-produced products, such as palm-sugar (*gula Jawa*), to consumers. Some farmers also sell cash crops in Wonosobo, but do so straight to the *gudang* or wholesaler, instead of in the market place.

### Post-harvest Sale at the Farm

Selling at the farm of harvested produce happens - again - both to consumers and traders. The former situation is comparable to sale in the market place to consumers, although in the present case these consumers happen to be fellow-villagers. The products sold are usually only surpluses of, in particular, fruits.

The post-harvest sale at the farm to traders is only of some importance in two of the five hamlets. The local activities of a few traders also living in those two hamlets appear to be the reason. One trader buys coffee, cloves and cardamom from his fellow-villagers, whereas another specializes in palm-sugar. The farmers involved mention convenience as the main incentive to sell straight from their farms, though it appears that they are also obliged to sell their produce to these traders because of advances received earlier.

Such advances in money, called *persekot* (from Dutch *voorschot*), are rather common in trading. The farmers can easily get money from the traders, but they will have to sell their produce to them at only 50—75% of the market price. The advantage for the trader is that he can be sure of merchandise against low prices. Of course, mutual trust is crucial and the parties will have to know each other quite well.

### Pre-harvest Sale at the Farm

This way of selling produce, the so-called *tebasan*, proves to be very important in the research area. The farmer-producer sells his crop before it is harvestable and, although he receives a price which is lower than the market value of the ripe crop, he avoids the risk of a possible bad harvest due to insects, bats or rain-storms. The *penebas* takes over such responsibilities when he buys the crop before ripening or before it is fully grown.

The *penebas* traders are only interested in bulky yields of produce. In the research area they buy cassava, banana, *petai*, *jengkol* and timber (*albizzia*). Other bulky products, like coffee and cloves, are not commonly sold to a *penebas*, because the farmers fear damage of the trees through uncaredful harvesting. Yet, it is found *tebasan* for cloves in seven cases and for coffee in five cases. These cases, however, concerned farmers who had no time to arrange the harvest themselves, since they performed other jobs as well, e.g. school teachers, civil servants and traders.

The most important incentive for a farmer to sell his crop to a *penebas* is the fact that he receives cash at an early stage and does not need to wait till his crops are harvestable. Besides, it saves him the trouble of harvesting, transporting and selling the ripe — and possible perishable — product. On the other hand, he has to be content with a far lower price. Many farmers did not even know the quantity and market value of the actual yield of their crop, so that they were not informed about the possible difference in revenue in case they had harvested the crop themselves.

As can be seen from Table 1, the categories of medium and larger farmers all sell to a *penebas* once in a while. The smaller farmers plant most of their area with food crops and have less bulky yields available for sale to a *penebas*. Most *penebas* traders are fellow-villagers and because of social control cheating hardly occurs. When the *penebas* is from outside the village, there often are long business relations between him and the producer. Although a *penebas* may be active as a market trader as well, some functional specialisation occurs. A coffee/cloves trader can be a coffee/cloves *penebas* as well, but he is not active in the trade of e.g. timber, and vice versa.

### Other Marketing Channels

**Sale to village shops.** Farmers may sell their produce to shops or stalls (*warung*) in the village. This trade is comparable to the sale to traders in the village market place. The two shopkeepers involved also buy the same products as the village-market traders. The advantage for the farmers to sell to the *warungs*, is that they can more easily receive a *persekot* compared to selling to an itinerant trader.

**Sale to wholesalers or processors.** Selling straight to processors includes soybeans to *tempe* makers in the village. This involves, however, only small quantities. More important is the selling of cassava. Farmers with substantial cassava surpluses prefer to sell their product directly to the small tapioca factory in Leksono where they will obtain a larger net-profit than when they sell to a *penebas*. The latter sells his purchased cassava to the same factory.

The sale direct to wholesalers or *gudangs* in Wonosobo or the neighbouring regional town of Banjarnegara is the most profitable in case of coffee, cloves and cardamom, if the quantities are substantial. Farmers selling to these (Chinese) wholesalers omit at least one step in the hierarchy, but they have to take transportation costs into account. For the smaller farmers, with their small yields, this way of marketing is not profitable, as these transportation costs will be relatively higher. It is striking, therefore, that the medium farmers sell more often straight to wholesalers than the farmers with large land areas. The explanation of this phenomenon is, that the larger farmers are also busy in other fields, as teacher, civil servant, trader, etc., and prefer to sell to a *penebas* in order to save time and trouble.

The traders, too, sell their merchandise (coffee, cloves and cardamom) to the wholesalers in Wonosobo and Banjarnegara. They in their turn often receive money in advance (*persekot*) from these Chinese wholesalers. From wonosobo the coffee is transported to Jakarta or Surabaya and exported. Cloves are destined for the *kretek* cigarette industry and cardamom is sold to the traditional medicine (*jamu*) industry in Semarang. This last mentioned commodity is relatively new in the study area. Demand and therefore market prices for this product are high and the farmers are most willing to cultivate the herb or to extend its cultivation. Although none seemed to remember how this crop was introduced in the area about five years ago, it is most likely that the stimulus came from the traders, since they have access to information about prices and demand.

**Sale to the government marketing board** occurs only for rice in the surplus producing areas. The relevant cooperative KUD (*Koperasi Unit Desa*).

located in Leksono, does not purchase any dry-field crops. A final remark concerns the selling of very young crops that are still growing on the fields, the so-called *ijon* system. This illegal system is more looked upon as a means of credit provision than as a marketing facility. In our research area no indication of the existence of *ijon* were found. *Ijon* differs from *tebasan* in that the latter is applied to crops that are already (almost) harvestable.

## CONCLUSION

In the research area with its diversity of crops, the marketing patterns proved to be diverse as well. The farmers can choose among a number of marketing possibilities, among which selling in the market place to traders and selling at the farm to a *penebas* occur most frequently. Farmers try to sell as profitable as possible and, consequently, may use different kinds of marketing channels if they sell different crops. But this freedom of choice is restricted when a farmer is indebted to a trader who paid him a *persekot* of money in advance. In case of small quantities of produce for sale the possibilities for the farmer are limited as well. Prices are rising with higher steps in the hierarchy of market places, but for the small farmers profits are eliminated because of the transport costs to far-away markets. Consequently, the smallholders are forced to sell their products in the village where they make little profits. Farmers with larger land areas at their disposal, and who yield more bulky produce, can more easily bear the transportation fares. In case of large amounts of produce, some of them even by-pass the middlemen by selling directly to the wholesalers. On the other hand, the biggest farmers in the research area do not bother to arrange the harvest themselves and prefer to sell to a *penebas* with less profit than when sold to a *gudang*.

Trading in the research area is of a small-scale nature, although some *penebas* may accumulate quite substantial quantities of produce. Large numbers of (farmer-)traders are active and there are no traders who monopolise certain commodities, although some specialisation occurs.

Finally, some remarks should be made about the rural cooperative, the KUD. Some of the respondents have a sceptical view about the functioning of the KUD. They do not expect that the possible sale through the cooperative would improve their marketing position. Instead, they expressed their satisfaction with the existing situation and possibilities. As it seems likely that marketing-cooperation between the farmers at village or district level would enlarge their profit margins, the reason for this rejection has to be sought in the present credit facilities offered by traders. The chronic need for cash by the farmers forces them to accept happier, lower profits for their crops in exchange for easy advances. Consequently,

a reform of the marketing system cannot be successful if it is not accompanied by simultaneous simplification and extension of credit facilities. An additional consideration concerning "rationalisation" of the marketing system is that elimination of the intermediate steps in the process of marketing would push small-scale traders out of trade. As long as alternatives for additional employment outside agriculture are rare, the small-scale trading by farmers should not be made impossible.

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